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10/584,322	06/26/2006	Tomoya Urushihara	L9289.06165	9826

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EXAMINER	
DEAN, RAYMOND S	

ART UNIT	PAPER NUMBER
2618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/584,322	URUSHIHARA ET AL.	
	Examiner	Art Unit	
	RAYMOND S. DEAN	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 June 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-10* is/are allowed.

6)☒ Claim(s) *11-13 and 15-23* is/are rejected.

7)☒ Claim(s) *14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed June 3, 2010 have been fully considered but they are not persuasive.

Examiner respectfully disagrees with Applicants' assertion that Bevan does not teach the feature of "transmitting generated communication profile information to a management terminal apparatus". The WARPs, which are the wireless terminal apparatuses, can communicate with each other and with NAPs, which are the management terminal apparatuses. The interference profiles can be provided to the WARPs and NAPs and the WARPs and NAPs also have the ability to create interference profiles (See Section 0063). This renders a scenario wherein the WARPs and NAPs create interference profiles and provide said profiles to other WARPs and NAPs. Bevan thus teaches the limitation in question.

Examiner respectfully disagrees with Applicants assertion that Claim 11 specifically teaches a reduction of interference **between two different sets of wireless apparatuses**. The claim only indicates **"a wireless terminal apparatus"** and **"another wireless terminal apparatus"**. There is no claim language indicating that said apparatuses are different **"sets"** of apparatuses.

Examiner respectfully disagrees with Applicants' assertions regarding Claims 20 and 22 for the same reasons set forth above.

Regarding Applicants' response to the Restriction Requirement dated January 12, 2010

Group I is directed towards communication quality control and Group II is directed towards interference compensation or prevention. Because these inventions are distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of there different classification, restriction for examination purposes as indicated is proper and maintained.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 11 – 13, 15 – 20, 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Bevan et al. (US 2004/0162093)

Regarding Claim 11, Bevan teaches a wireless terminal apparatus comprising: a generating section generating communication profile information containing information for a wireless communication scheme, used frequency bandwidth, communication start time, and/or a communication continuation time corresponding to a communication

request in the event that the communication request occurs with another wireless terminal apparatus (Figure 2, Sections 0052, 0063 – 0067, 0075, 0076, the nodes use the interference profiles in order to determine appropriate time slots in which to communicate, said time slots will not necessarily be consecutive due to the expected interference thus rendering a scenario wherein the communication starts at time slot 0 and **continues** at time slot 4, the interference profile thus provides an indication of the communication continuation time); and a transmission section transmitting generated communication profile information to a management terminal apparatus (Section 0063, the interference profiles can be created and then provided to a node as opposed the node creating said interference profiles).

Regarding Claim 12, Bevan teaches all of the claimed limitations recited in Claim 11. Bevan further teaches wherein the generating section, in addition to the information, further generates communication profile information containing at least one of a modulation scheme, encoding rate, transmission power and spreading factor corresponding to the communication request. (Sections 0063 – 0067, the interference profiles have beam information, in order for beams to occur their will need to be some kind gain which renders a particular transmission power, the beam information is thus an indication of the transmission power).

Regarding Claim 13, Bevan teaches all of the claimed limitations recited in Claim 11. Bevan further teaches wherein the generating section, in addition to the communication profile information, generates desired throughput information corresponding to the communication request; and the transmission section transmits

the generated communication profile information and the desired throughput information to the management terminal apparatus (Sections 0058 lines 4 – 8, 0063 – 0067, the multi-dimensional characteristic provides a certain level of throughput).

Regarding Claim 15, Bevan teaches all of the claimed limitations recited in Claim 11. Bevan further teaches a receiving section receiving communication permit/deny information indicating communication permission or denial corresponding to the communication profile information from the management terminal apparatus, wherein: the transmission section starts communication with the other wireless terminal apparatus in the event that the communication permit information is received (Section 0055, 0076, when a station or terminal wants to communicate in a 802.11 system said station or terminal send a request to send (RTS) message, the access point will respond with a clear to send (CTS) message if it is okay to communicate and will not receive the CTS message if it is not okay to communicate, the system of Bevan takes into account the interference profile and permits/denies a desired communication slot based on said interference profile).

Regarding Claim 16, Bevan teaches all of the claimed limitations recited in Claim 15. Bevan further teaches wherein: the generating section: generates new communication profile information in the event that communication deny information is received; and the transmission section transmits generated new communication profile information to the management terminal apparatus in the event that communication deny information is received (Section 0063, the interference profiles are updated periodically thus rendering a scenario wherein said profiles are updated when the

terminal is cleared to communicate and when said terminal is not cleared to communicate).

Regarding Claim 17, Bevan teaches all of the claimed limitations recited in Claim 15. Bevan further teaches wherein: the receiving section receives communication permit information containing changed communication profile information where at least one item of information contained in the communication profile information is changed; and the transmission section starts communication with the other wireless terminal apparatus in accordance with the changed communication profile information (Section 0063, the interference profiles are updated periodically thus rendering a scenario wherein communication occurs in accordance with the updated interference profiles and wherein communication occurs in accordance with interference profiles that have not yet been updated i.e. the current interference profiles).

Regarding Claim 18, Bevan teaches all of the claimed limitations recited in Claim 11. Bevan further teaches a receiving section receiving communication permit/deny information indicating communication permission or denial corresponding to the communication profile information from the management terminal apparatus (Section 0055, when a station or terminal wants to communicate in a 802.11 system said station or terminal send a request to send (RTS) message, the access point will respond with a clear to send (CTS) message if it is okay to communicate and will not receive the CTS message if it is not okay to communicate), wherein: the transmission section transmits notification of completion of the communication to the management terminal apparatus after communication is complete based on communication permit

information from the management terminal apparatus (Section 0055, a typical transmission scenario in 802.11 is wireless terminal sends a RTS to the access point, access point responds with a CTS, wireless terminal then sends data (DS), access point responds with an acknowledgement (ACK), if the terminal is finished communicating then said terminal does not send another RTS, which is an indication the communication is complete).

Regarding Claim 19, Bevan teaches all of the claimed limitations recited in Claim 11. Bevan further teaches a receiving section receiving communication permit/deny information indicating communication permission or denial corresponding to the communication profile information from the management terminal apparatus (Section 0055, when a station or terminal wants to communicate in a 802.11 system said station or terminal send a request to send (RTS) message, the access point will respond with a clear to send (CTS) message if it is okay to communicate and will not receive the CTS message if it is not okay to communicate), wherein: the transmission section transmits actual throughput in communications based on communication permit information from the management terminal apparatus to the management terminal apparatus (Sections 0058 lines 4 – 8, 0063 – 0067, the multi-dimensional characteristic provides a certain level of throughput).

Regarding Claim 20, Bevan teaches a wireless communication system having a plurality of wireless terminal apparatuses and a management terminal apparatus, the wireless terminal apparatuses comprising: a generating section generating communication profile information containing information for a wireless communication

scheme, used frequency bandwidth, communication start time, and/or a communication continuation time corresponding to a communication request in the event that the communication request occurs with another of the wireless terminal apparatuses (Figure 2, Sections 0052, 0063 – 0067, 0075, 0076, the nodes use the interference profiles in order to determine appropriate time slots in which to communicate, said time slots will not necessarily be consecutive due to the expected interference thus rendering a scenario wherein the communication starts at time slot 0 and **continues** at time slot 4, the interference profile thus provides an indication of the communication continuation time); and a transmission section transmitting generated communication profile information to the management terminal apparatus (Section 0063, the interference profiles can be created and then provided to a node as opposed the node creating said interference profiles), and the management terminal apparatus comprising: a receiving section receiving the communication profile information from the wireless terminal apparatus (Section 0063, the interference profiles can be created and then provided to a node as opposed the node creating said interference profiles); a generating section comparing the received communication profile information and past communication permission history, and generating communication permit/deny information indicating communication permission or denial in accordance with the communication profile information (Section 0055, 0063, 0076, when a station or terminal wants to communicate in a 802.11 system said station or terminal send a request to send (RTS) message, the access point will respond with a clear to send (CTS) message if it is okay to communicate and will not receive the CTS message if it

is not okay to communicate, the system of Bevan takes into account the interference profile and permits/denies a desired communication slot based on said interference profile); and a transmission section transmitting generated communication permit/deny information to the wireless terminal apparatus (Section 0055, when a station or terminal wants to communicate in a 802.11 system said station or terminal send a request to send (RTS) message, the access point will respond with a clear to send (CTS) message if it is okay to communicate and will not receive the CTS message if it is not okay to communicate).

Regarding Claim 22, Bevan teaches a wireless communication system having a plurality of wireless terminal apparatuses and a management terminal apparatus, each of the wireless terminal apparatuses comprising: a generating section generating a trigger signal notifying of a communication request in the event that a communication request occurs with another of the wireless terminal apparatuses (Figure 2, Sections 0052, 0055, when a station or terminal wants to communicate in a 802.11 system said station or terminal send a request to send (RTS) message, which is the trigger); and a transmission section transmitting the generated trigger signal to the management terminal apparatus (Figure 2, Sections 0052, 0055, when a station or terminal wants to communicate in a 802.11 system said station or terminal send a request to send (RTS) message, which is the trigger), and the management terminal apparatus comprising: a receiving section receiving the trigger signal from the wireless terminal apparatus (Figure 2, Sections 0052, 0055, when a station or terminal wants to communicate in a 802.11 system said station or terminal send a request to send (RTS) message, which

is the trigger, the access point receives said RTS); an acquiring section receiving the trigger signal and acquiring communication profile information relating to the wireless communication scheme corresponding to the communication request (Section 0063, the interference profiles can be created and then provided to a node as opposed the node creating said interference profiles); a generating section comparing the acquired communication profile information and past communication permission history, and generating communication permit/deny information indicating communication permission or denial in accordance with the communication profile information (Section 0055, 0063, 0076, when a station or terminal wants to communicate in a 802.11 system said station or terminal send a request to send (RTS) message, the access point will respond with a clear to send (CTS) message if it is okay to communicate and will not receive the CTS message if it is not okay to communicate, the system of Bevan takes into account the interference profile and permits/denies a desired communication slot based on said interference profile); and a transmission section transmitting generated communication permit/deny information to the wireless terminal apparatus (Section 0055, when a station or terminal wants to communicate in a 802.11 system said station or terminal send a request to send (RTS) message, the access point will respond with a clear to send (CTS) message if it is okay to communicate and will not receive the CTS message if it is not okay to communicate).

Regarding Claim 20, Bevan teaches a wireless communication system having a plurality of wireless terminal apparatuses and a management terminal apparatus, the wireless terminal apparatuses comprising: a generating section generating

communication profile information containing information for a wireless communication scheme, used frequency bandwidth, communication start time, and/or a communication continuation time corresponding to a communication request in the event that the communication request occurs with another of the wireless terminal apparatuses (Figure 2, Sections 0052, 0063 – 0067, 0075, 0076, the nodes use the interference profiles in order to determine appropriate time slots in which to communicate, said time slots will not necessarily be consecutive due to the expected interference thus rendering a scenario wherein the communication starts at time slot 0 and **continues** at time slot 4, the interference profile thus provides an indication of the communication continuation time); and a transmission section transmitting generated communication profile information to the management terminal apparatus (Section 0063, the interference profiles can be created and then provided to a node as opposed the node creating said interference profiles), and the management terminal apparatus comprising: a receiving section receiving the communication profile information from the wireless terminal apparatus (Section 0063, the interference profiles can be created and then provided to a node as opposed the node creating said interference profiles); a generating section comparing the received communication profile information and past communication permission history, and generating communication permit/deny information indicating communication permission or denial in accordance with the communication profile information (Section 0055, 0063, 0076, when a station or terminal wants to communicate in a 802.11 system said station or terminal send a request to send (RTS) message, the access point will respond with a clear to send

(CTS) message if it is okay to communicate and will not receive the CTS message if it is not okay to communicate, the system of Bevan takes into account the interference profile and permits/denies a desired communication slot based on said interference profile); and a transmission section transmitting generated communication permit/deny information to the wireless terminal apparatus (Section 0055, when a station or terminal wants to communicate in a 802.11 system said station or terminal send a request to send (RTS) message, the access point will respond with a clear to send (CTS) message if it is okay to communicate and will not receive the CTS message if it is not okay to communicate).

Regarding Claim 23, Bevan teaches a wireless communication method for a wireless communication system having a plurality of wireless terminal apparatuses and a management terminal apparatus, comprising the steps of: one of the wireless terminal apparatuses generating communication profile information containing information for a wireless communication scheme, used frequency bandwidth, communication start time, and/or a communication continuation time corresponding to a communication request in the event that the communication request occurs with another of the wireless terminal apparatuses (Figure 2, Sections 0052, 0063 – 0067, 0075, 0076, the nodes use the interference profiles in order to determine appropriate time slots in which to communicate, said time slots will not necessarily be consecutive due to the expected interference thus rendering a scenario wherein the communication starts at time slot 0 and **continues** at time slot 4, the interference profile thus provides an indication of the communication continuation time); the wireless terminal apparatus

transmitting generated communication profile information (Section 0063, the interference profiles can be created and then provided to a node as opposed the node creating said interference profiles); and the management terminal apparatus acquiring the communication profile information (Section 0063, the interference profiles can be created and then provided to a node as opposed the node creating said interference profiles); the management terminal apparatus comparing the received communication profile information and past communication permission history, and generating communication permit/deny information indicating communication permission or denial in accordance with the communication profile information (Section 0055, 0063, 0076, when a station or terminal wants to communicate in a 802.11 system said station or terminal send a request to send (RTS) message, the access point will respond with a clear to send (CTS) message if it is okay to communicate and will not receive the CTS message if it is not okay to communicate, the system of Bevan takes into account the interference profile and permits/denies a desired communication slot based on said interference profile); and the management terminal apparatus transmitting generated communication permit/deny information to the wireless terminal apparatus (Section 0055, when a station or terminal wants to communicate in a 802.11 system said station or terminal send a request to send (RTS) message, the access point will respond with a clear to send (CTS) message if it is okay to communicate and will not receive the CTS message if it is not okay to communicate).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bevan et al. (US 2004/0162093) in view of Proctor et al. (US 2006/0098592)

Regarding Claim 21, Bevan teaches all of the claimed limitations recited in Claim 20. Bevan does not teach relay terminal apparatus transmitting, receiving, and relaying the communication profile information and the communication permit/deny information between the wireless terminal apparatus and the management terminal apparatus.

Proctor, which also teaches an 802.11 system, teaches a relay terminal apparatus transmitting, receiving, and relaying data between the wireless terminal apparatus and the management terminal apparatus (Figure 1, Section 0032 lines 1 – 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Bevan with the repeater of Proctor for the purpose of enhancing coverage and communication data rate as taught by Proctor.

Allowable Subject Matter

6. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach or render obvious: **wherein the transmission section transmits the communication profile information using a wireless communication scheme different from the wireless communication scheme corresponding to the communication request.**

The following is a statement of reasons for the indication of allowable subject matter:

The prior art for record fails to teach or render obvious:

generating communication permit/deny information indicating communication permission or denial in accordance with the communication profile information, wherein said communication profile information contains information for a wireless communication scheme, used frequency bandwidth, communication start time and communication duration time used by a wireless terminal apparatus with another wireless terminal apparatus

Claim 1 and its corresponding dependent claims are therefore allowed.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAYMOND S. DEAN whose telephone number is (571)272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Raymond S Dean/
Examiner, Art Unit 2618
Raymond S. Dean
July 27, 2010